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In this case the whites appear in excess of the reds.

$$\frac{\text{reds}}{\text{whites}} = \frac{2{,}163}{2{,}322} = 0.931.$$

Dividing the sum of all the reds bred by the sum of all the whites bred we get an excess of reds—6,670 : 5,957 = 1.12.

These counts add nothing new to the theory of association, but are in agreement with Morgan's ratios.

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A DISCUSSION OF THE RESULTS OBTAINED BY CROSSING ZEA MAIS L. (MAIS DJAGOENG) (—REANA LUXURIANS DUR.—TEOSINTE) AND EUCHLÆNA MEXICANA SCHRAD[1]

THE author prefaces his discussion of the hybrids of maize and teosinte with a minute study of the male and female spikelets of both plants, showing the similarity between them.

After reviewing the work of Harshberger with the cross maize ♂ × teosinte ♀, he takes up the result of his own reciprocal cross, maize ♀ × teosinte ♂. He shows that the first generation hybrids by the latter cross were uniform and agree closely with those from the reciprocal cross made by Harshberger.

The plants of the second hybrid generation of the cross, maize ♀ × teosinte ♂ form a diverse series, of which the different individuals differ widely in stooling and branching ability, as well as in the structure of the ear. A complete reversion, however, to either one of the parent types never occurs. The series tends more towards the maize than the teosinte type, and it is shown that associated with the stronger development of the maize type, is a reduction in the number of branches, a reduction in the number of ears per plant, a less horny texture of the axis and of the calyx-glumes, and a reduction in the depth of the pits of the axis. The nature of the diversity in the second hybrid generation argues against the absolute purity of the sex cells.

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[1] "A Discussion of the Results Obtained by Crossing *Zea mais* L. (*Mais Djagoeng*) (*-Reana luxurians* Dur. *-teosinte*) and *Euchlæna mexicana* Schrad," by J. E. van der Stok, in *Teysmannia*, Vol. 21, 1910, p. 47–59. The translation upon which this abstract is based was made by Karle Lotsy, Bureau of Plant Industry, U. S. Dept. of Agriculture, Washington, D. C.

Another cross was made with two varieties of Java maize, Madoera and Menado, using pollen from the first hybrid of the maize × teosinte cross. The resulting plants varied widely regarding the stooling ability and structure of the ears. This is not surprising in view of the inequality of the sex cells of the hybrid.

Seed from the second generation hybrids were sown and that again from the resulting plants, thus securing fourth generation hybrids. These hybrids (fourth generation) while differing widely from each other, remained within the limits of the most different types which appeared in the second generation hybrids. The practical result of these crosses, maize × teosinte, are not very satisfying. The resulting hybrids are far inferior to teosinte for fodder, and although the seed can be more easily harvested from the hybrids than from teosinte, it is not nearly so valuable as that from good varieties of maize.

The author closes by calling attention to the fact that teosinte is immune from the chlorosis disease of maize which is very prevalent in Java, but the hybrids of maize and teosinte showed no decrease in sensitiveness to the disease.

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